Application of Traditional Chinese Aromatherapy in the Prevention and Treatment of COVID-19

Qian Zhang¹, Kang Zhang¹, Meikui Zhang^{2,*}, Xiaomao Liu³

¹Shaanxi University of Traditional Chinese Medicine, Xian Yang, 712046, China.

²The First Medical Center of PLA General Hospital, Beijing, 100853, China.

³Yulin Hospital of Traditional Chinese Medicine, Yulin, 719000, China.

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***Corresponding author:** Meikui Zhang, The First Medical Center of PLA General Hospital, Beijing, 100853, China.
Email: ZMK301@126.com

Abstract

COVID-19 outbreak, the motherland medicine to its long experience and the characteristics of clinical diagnosis and treatment ideas in prevention and treatment of disease has an irreplaceable role, aromatherapy, as a characteristic of Chinese medicine therapy, with simple, easy to operate, side effects of small advantages, has an indispensable position in Chinese history of epidemic prevention, during the outbreak of aromatherapy in disease prevention and control links are important, for effective prevention and control the outbreak expand the method and train of thought. Taking the different application forms of aromatherapy as the entry point, this paper discusses the value of aromatherapy in epidemic prevention, in order to provide reference for the prevention and control of similar public health events in the future.

Keywords

COVID-19, Aromatherapy, Sachet Fumigation, Medicinal Bath Fumigation

Since December 2019, a number of cases of COVID-19 have been discovered in Wuhan, Hubei Province, and subsequently spread across many provinces. Due to its highly infectious and epidemic characteristics, COVID-19 belongs to the category of “plague” of traditional Chinese medicine [1]. The understanding of plague as a disease has been recorded as early as in the “Neijing”, “Suwen Acupuncture Theory” said that “the five epidemics are easily infected with each other, no question size, and the disease symptoms are similar”. That is, the plague caused disease, a disease, symptoms similar. Wu Youke, a doctor in the Ming Dynasty, put forward in “Plague Theory” that “Plague is not a disease, not wind, not heat, not wet, but a different feeling between heaven and earth”. Different Qi, also known as miscellaneous Qi, belongs to the evil outside the “six immorality”. Yang Lishan in the Qing Dynasty explained in “Typhoid Plague Biography” that “miscellaneous qi is neither wind, cold, heat, wet, dry, or fire. There is another kind between heaven and earth”. “Plague Theory Original Disease” recorded that “the pestilence, feeling the amount of heaven and earth gas, in the year, in the thickness of the square, in the four seasons has the rise and fall”. Pneumonia occurs in winter, the coldest time of the year. Wuhan is located in the east of the Hanjiang River Plain, where rivers criss-cross the city, lakes and harbors are interwoven, and it has been raining for a long time, leading to heavy humidity, which provides the foundation for the formation of humidity [2].

In traditional Chinese medicine, it is believed that vital qi is the most fundamental factor to resist external evil, prevent disease, keep fit and promote body recovery, and the process of disease is the result of the interaction between “vital qi” and “evil qi”. “Huangdi Neijing Su” asked there is a cloud “positive Qi memory, evil cannot dry; when evil is gathered together, its qi will be empty”. “Via evil wind, avoid sometimes, indifferent nihilism, true gas from the spirit, keep, disease Ann never”. Therefore, it is an effective method to resist the pestilence gas and also an important link to prevent and control the epidemic situation. Aromatic therapy of traditional Chinese medicine can

effectively clean the air and improve the human immunity, but it is still lack of systematic mining and application. This paper mainly discusses the application form and value of aromatherapy from the four aspects of traditional Chinese medicine fuming, traditional Chinese medicine sachets and traditional Chinese medicine bath, in order to provide reference for the better role of traditional Chinese medicine in COVID-19 prevention.

1. The epidemic prevention source of aromatherapy

Aromatherapy is a centuries-old back-to-nature method of disease prevention and treatment that works through both smell (inhalation) and direct contact (absorption through the skin) [3]. The theoretical basis of traditional aromatherapy is the holistic concept of traditional Chinese medicine, which believes that human is an organic whole and treatment is mainly based on adjusting the balance of Yin and Yang in human body [4]. As early as in the Yin and Shang Dynasty in the oracle bones on the smoked Liao, steamed moxa records, “Shennong Herbal Classic” cloud incense, gas is positive, Zhengqi Sheng is the removal of evil and avoid obscenity also. The folk of the Zhou Dynasty had the custom of wearing sachets, and they used fragrant medicines such as mugwort, patchouli, wood incense, musk and borneol to make appropriate preparation forms to prevent and cure diseases. “Bencao Shujing” also said, “the fragrance can avoid all evil”. Therefore, the ancients were prevalent in the use of medicinal incense, incense pillow, incense pocket, incense fumigation, incense bath, incense compress and so on to prevent and cure diseases. The Ming Dynasty “Compendium of Materia Medica” recorded 35 kinds of “fragrant wood” and 56 kinds of “vanilla”, and introduced the method of painting, rubbing, applying, blowing, gargling, bath and other aromatherapy to prevent and cure diseases [5]. In the Middle Ages, people used aromatic plants and spices to get through the hard plague years [6]. During COVID-19, traditional Chinese medicine aromatherapy was applied in Wuhan Yuantang Hospital and hospitals at all levels nationwide, and achieved good results.

2. The application form of aromatherapy in epidemic prevention

2.1 Chinese medicine anti-infection sachets

The method of preventing and curing diseases with traditional Chinese medicine is the “dressing therapy” in the special therapy of traditional Chinese medicine.

Aromatic drugs volatilize gas through mucous membrane, skin, meridians, along with the circulation of Qi and blood meridians to the whole body, play the role of dredging channels and collaterals, regulating Qi and blood, so as to achieve the purpose of disease prevention and treatment.

Ancient people will hang on the chest of the sachets, indoor in addition to miasma to avoid obscene, anti-virus dispel evil, “elbow backup emergency” has recorded “too yi liu gold square (rammed to powder, Jiang bursa, store one or two with the heart before the portal) and other traditional Chinese medicine sachets open blast prescription”.

Modern studies have shown that the important factor of respiratory tract infection is due to the decrease of sIgA content in the nasopharynx [8]. The volatile oil of fragrant drugs in the perfume sachets has antiviral and antibacterial effects. Long-term wearing of the perfume sachets will not directly kill bacteria and viruses, but stimulate the respiratory tract through oral and nasal inhalation, improve the content of SIgA and IgG in the respiratory system, so as to form an immune barrier [9]. And traditional Chinese medicine volatile oil of armour influenza virus infection in mice Th1/Th2 immune balance has certain adjustment [10]. Therefore, Chinese herbal sachets can prevent diseases in Yang et al. found through clinical trials [11], Wearing TCM anti-infection sachets for 3 months can effectively improve the TCM syndromes, symptoms and signs of common cold in community residents, reduce the course of disease and reduce the incidence of disease, which is worthy of clinical promotion. Li li et al. [12] compared with the control group, the symptoms of fever, sore throat, cough and fatigue were significantly lower after wearing and smelling for 2 months, which proved that the anti-pathogenic sachets had potential preventive effect on adult seasonal influenza. In addition, Lv Peng et al. [13] found that the home-made Chinese herbal sachets (*Artemisia artemisiae*, sandalwood, *Atractylodes ractylodes*, *Angelica dahuricae*, *Atractylodes sinensis*, Peilan orchid, etc.) had obvious removal effect on bacteria in the air. Therefore, through long-term practice and experimental research, the Chinese medicine anti-infection sachets can prevent influenza by sniffing on the nasal mucosa target, and can also be used for environmental disinfection. During COVID-19, “TCM Home Prevention Program for Novel Coronavirus Infected Pneumonia in Wuhan” [14], according to the concept of “prevention before disease” in Chinese medicine, it is recommended to use Chinese medicine sachets to avoid smut and prevent disease in the home and in the individual. Frontline staff advocated wearing a traditional Chinese medicine (TCM) sweet bursa sense, Shaanxi University of Traditional Chinese Medicine about wuhan medical personnel play to give full play to the advantages of traditional Chinese medicine, choose a spice avoid dirty, liver resolve depression, releasing lungs

detoxifying effect of radix bupleuri, cassia twig, mint, ageratum, rhizoma atractylodis, homemade “new crown lungs ning detoxification sweet bursa” to prevent plague, to avoid the body wet, cold, heat and the phase lead.

2.2 Fumigation with traditional Chinese medicine

2.2.1 Traditional Chinese medicine fumigation to avoid obscenity

Traditional Chinese medicine fumigation therapy has a long history in the prevention and treatment of diseases. The drugs used for fumigation are mostly selected from the traditional Chinese medicine with the effect of aromatic turbidities, killing poisons and avoiding smudginess, and warming the meridians. The ancients often used *Artemisia argyi* and *Atractylodes lancea* to fumigate the indoor and affected areas to ward off evil spirits, cure evil diseases and help the healthy qi. Literature works such as *The Book of Songs*, *Zhuangzi*, *Li Sao* and *Ai fu* have records about the use of *Artemisia argyi* to smoke to prevent diseases. Many medical works, such as “fifty-two prescriptions” records the use of dried mugwort leaves and other smoke treatment of anal itching; “Elbow reserve urgent” record “to dry moxa huxu, knead group sodium watt retort, and leave a single eye, with pain in the retort eye and burning moxa smoked”. “Prepare urgent Qian Jin Yaofang” in the “mortal Wu Shu to travel officials, the body often must be 32 places moxibustion, do not make the sore temporary difference, then malaria warm malaria gas cannot people also. Smoking *Artemisia argyi* leaves is one of the main epidemic prevention measures. Says rhizoma *atractylodis* in compendium of materia medica “in addition to evil spirit, ancient and modern age of disease and denier, people tend to burn rhizoma *atractylodis* to ward off bad luck”. Therefore, air disinfection is the most effective and direct way to cut off the transmission of airborne pathogenic microorganisms and prevent and control infectious diseases [15].

In modern times, smoking therapy is more used in the treatment of surgical diseases such as skin diseases, and some studies have shown that AI smoke has the effect of air disinfection and sterilization, and has a better prevention and control effect on influenza, avian flu, chicken pox, mumps, measles and other epidemic diseases transmitted by respiratory tract [16]. During the epidemic of SARA, medical staff advocated the use of mugwort leaf or *Atractylodes* *Atractylodes* to disinfect the hospital and living environment, in order to “avoid its poison gas” [17]. It was found that the disinfecting package made of *Atractylodes* *Atractylodes* and *Artemisia artemisiae* leaves was put into a metal container at the dosage of 1,000mg/m³, and was wet and ignited with 95% alcohol for air disinfection. After 4h, the disinfection effect was no different from that of traditional ultraviolet radiation disinfection. Moreover, the fumigation disinfection of *Atractylodes* *Atractylodes* and *Artemisia artemisiae* leaves was economical, easy to operate and harmless to human body [18]. With the expansion of the application of traditional Chinese medicine fumigation therapy, especially the increase of the frequency of the use of moxa tobacco, researchers have been deepening the study of traditional Chinese medicine smoke. Liu Hong et al. [19], through animal experiments, it is found that medium and low concentration of *Artemisia argyi* can better regulate the immune level and improve the immune function of the body. Cai Hong et al. [20], the activity of rat alveolar macrophage NR8383 was increased by the condense of moxa *artemisiae*, which showed a concentration dependence, suggesting that moxa *artemisiae* *artemisiae* can be used to prevent respiratory diseases and improve human immunity. Therefore, the application of *Artemisia argyi* and *Atractylodes* *Atractylodes* in fumigation can remove poison and avoid filthiness, help healthy qi and avoid evil poison, and have great application space in environmental disinfection and disease prevention. In the early days of COVID-19 popularity, Tong Xiaolin, academician of the Chinese Academy of Sciences, proposed moxibustion Shenque, Guanyuan, Qihai, Weiwan, Zusanli, Sanyinjiao, Yinlingquan and other acupoints to warm Yang, disperse cold and dehumidify, regulate the spleen and stomach, help the healthy qi and prevent plague. At the same time, he proposed the use of *Artemisia argyi* smoke to disinfect the room, in order to ward off evil and restore the power of Zhengquan [21].

2.2.2 Traditional Chinese medicine fumigation and anti-evil method

Chinese traditional medicine fumigation therapy calls Chinese traditional medicine fumigation washing therapy again, Chinese traditional medicine steam bath therapy, Chinese traditional medicine atomization therapy to wait [22]. Often choose to have the aromatic dryness wet medicine composition prescription, in order to achieve the prevention and treatment of diseases. As early as in “fifty-two prescriptions for diseases”, there is a record about the fumigation method of traditional Chinese medicine. “Su Wen Yin and Yang should be like a big theory” recorded that “its evil people, sweat, sweat in the skin”. Among them, “stain line” is fumigation therapy, through the fumigation can be through the sweating table, expel evil spirit, in order to achieve the purpose of healing, “surgical essence” also said that “the method of falling stain sore swelling, appropriate passage table, diffuse evil spirit, so that the sore also disappear”. Traditional Chinese medicine believes that fumigation therapy has the effect of transferring Yin

and Yang, regulating the rise and fall, dredging Qi and blood, warming channels and collaterals, relieving the surface and removing evil spirits, killing insects and detoxification [23]. The mechanism of action is that the effective components of traditional Chinese medicine can be transmitted through the skin through the heat of fumigation and participate in the blood circulation to play the curative effect of traditional Chinese medicine [24]. Since ancient times, traditional Chinese medicine fumigation therapy has been mostly used in the prevention and treatment of diseases such as skin diseases, orthopedics and traumatology, gynecology, internal medicine, etc., and rarely used in air disinfection. Recent studies have found that traditional Chinese medicine fumigation therapy is also suitable for air disinfection, and the amount of smoke is small to the human body less damage. Yang Ruilan et al. [25], use of radix isatidis, rhizoma atractylodis, mint, ageratum, Huang Piao, magnolia bark each 30 g, according to the 15g/m³ water into the pot boil, 30 min, fumigation disinfection of neonatal care unit, and the results found using effect is superior to the conventional method. Liu Yiqin [26], used elsholtzia, cassia twig, forsythia and clover to form a prescription with water boiling and fumigation in the proportion of 3:3:3:2, the effect was obviously better than single drug fumigation. During the prevalence of COVID-19, in the Tongji Hospital Affiliated to Tongji Medical College of Huazhong University of Science and Technology on the TCM Treatment and Prevention of COVID-19 [27]. The drug fumigation scheme was proposed in the paper. The single drug *Atractylodes tracylodes* 30g or traditional Chinese medicine compound: 10g of *Radix isatidis*, 10g of *Shicalamus*, 10g of *Guanzhongand*, 10g of honeysuckle were selected and fumigated in the room with water. The effective ingredients of traditional Chinese medicine evaporate with the steam, which can kill bacteria and viruses in the air. At the same time, it is believed in traditional Chinese medicine that the lungs are invigorated in the nose and in the arteries and veins. The effective ingredients of traditional Chinese medicine are inhaled into the lungs through smelling and dispersed in the bones of the limbs, so as to clear the meridians, dredge Qi and blood, enhance the vital qi and resist evil spirits.

2.3 Traditional Chinese medicine bath method

Chinese medicine bath therapy is also known as hydrotherapy, divided into whole body bath and local bath, its history is long, mature in clinical application. It is said in the Book of Rites: Quli that “if there is a sore on the head, bathe; if there is a sore on the body, bathe”.

It proved that the medicine bath therapy had been widely used at that time. “Fifty-two prescriptions” clearly recorded the use of “thunder pills bath treatment of infant epilepsy”. In “Treatise on Typhoid and Miscellaneous Diseases”, it is used to “wash the body with lily to treat lily disease and bathe with *Sophora flavescens* soup to treat fox delusion disease”. There are 117 kinds of traditional Chinese medicine related to medicinal bath in “Secret of Outer Taiwan”, most of which are based on hard work. Traditional Chinese medicine believes that drug bath therapy is administered through the skin and acupoints of the human body, through the meridians and collaterals to communicate inside and outside, to avoid the stimulation of the gastrointestinal tract, so that the drugs go straight to the viscera and produce curative effects [28], Li Yue Parallel Wen discussed it as “According to its position, name and shape, diseases were cured by curing diseases, hair and body passages were separated by skin, and the viscera of organs were directly connected without seeing them”. It has the function of harmonizing Yin and Yang, dredging channels and collaterals, and regulating zang-fu organs. “Surgical Jing Yi” said “dredging Cou rationale, regulating blood vessels, so that there is no stagnation”.

It has been proved that there are three ways to absorb medicine from the bath skin: through penetrating the cell membrane of the stratum corneum into the cell; Macromolecules and water-soluble substances are absorbed through pores and sweat pores; a small amount can also penetrate into the dermis through the surface intercellular space [29], and the use of ephedra, cassia twiggy, asarum, *Sophora flavescens*, musk, aconite and other hot medicine bath, with anti-inflammatory, analgesia, secretion of sweat glands, improve immunity and other functions [30]. Due to the heat effect of skin cou completely open leakage, through the transmission of the skin and meridians, can promote the absorption of the effective ingredients of the drug skin and the improvement of the systemic blood circulation, can effectively regulate the function of the organs, balance Yin and Yang, improve the body's self-defense ability and immunity [31]. In more than 300 plagues of all time [32], in addition to avoiding poisonous gas, traditional Chinese medicine emphasizes the importance of supporting healthy qi, namely, “the memory of healthy qi, evil cannot be dry”, “Yin Ping Yang, the secret of the spirit is to treat”. As a kind of aromatherapy of traditional Chinese medicine, herbal bath has great potential in strengthening vital qi and improving immunity, but its application in epidemic prevention remains to be explored.

3. Conclusion

Aromatherapy has played an important role in plague prevention throughout history. During COVID-19, the idea

of “curing diseases” of Chinese medicine took advantage in disease prevention and control, and aromatherapy was adopted to prevent the spread of diseases by supporting vital qi and driving away evil qi, so as to achieve the purpose of preventing diseases before they became ill. Now, as one of the special treatment of traditional Chinese medicine, aromatherapy, application form by continual expansion have smoked Chinese medicine, Chinese medicine, Chinese medicine fumigation sweet bursa, medicated bath, etc., can be effectively can kill or inhibit bacteria, viruses and other harmful substances in the air, but also can enhance immunity, in the form of more and more convenient security in a major public health events play a preventive role, for the epidemic prevention and control of development train of thought and method, has great research and explore potential.

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